



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,012	01/21/2005	Yasuo Shinomiya	12480-000088/US	2053
30593	7590	06/13/2006	EXAMINER	
HARNESSE, DICKEY & PIERCE, P.L.C.			EWALD, MARIA VERONICA	
P.O. BOX 8910			ART UNIT	PAPER NUMBER
RESTON, VA 20195			1722	

DATE MAILED: 06/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/522,012		SHINOMIYA ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Maria Veronica D. Ewald		1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/05&amp;3/05</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### ***Information Disclosure Statement***

13. The information disclosure statement filed on January 21, 2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Japanese patents JP 3-53841 A, JP 1-99180 U, JP-2000-249080 and JP-2000-120659 included in the IDS have not been submitted.

### ***Claim Rejections - 35 USC § 112***

14. Claim 2 is objected to because of the following informalities: Claim 2 states "...wherein, the supporting means includes (i) opening and closing means for, when closed, releasing support of the axis...while, when opened, supporting the axis..." This is contrary to what is stated in the specification. Per page 24, lines 9 – 12 of the specification, there are opening and closing means to release the support of the axis of the convex half when opened, and while to support the axis when closed. The claim seems to be reverse of what is stated in the specification, and thus, Examiner is interpreting the supporting means to release the convex half when *opened* and support the axis when *closed* per the specification. Appropriate correction or clarification of claim 2 is required.

***Claim Rejections - 35 USC § 102***

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 2, 4 – 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Taylor (U.S. 1,720,304). Taylor teaches a rolled cone manufacturing apparatus, comprising a concave half (item 6 – figure 1) and a convex half (item 9 – figure 1) which form a cavity inside when combined with each other (figure 1), a cross section of the cavity having a circular shape in a direction orthogonal to axes of the concave half and the convex half (figures 1, 9 – 10); and supporting means which rotatably supports the convex half (item 9a and 11 – figure 1; column 2, lines 1 – 5), on condition that the axis of the concave half is aligned with the axis of the convex half (figure 1; page 1, lines 80 – 85), said supporting means being openable and closable, and pushing, on at least three points, an outer periphery of a part of the convex half protruding from the concave half onto the axis when said supporting means is closed (page 2, lines 8 – 20), wherein the supporting means includes (i) opening and closing means for, when opened, releasing support of the axis of the convex half (item 11 – figure 1; page 2, lines 15 – 20), while, when closed, supporting the axis (page 3, lines 35 – 40) and (ii) locking means for keeping the opening and closing means closed (page 3, lines 18 – 40).

With respect to claims 4 – 6, Taylor further teaches that there are rolling objects provided on respective supporting points of the supporting means (item 4a – figure 1; page 2, lines 10 – 13); wherein the convex half is rotatable when the supporting means is closed, while the convex half is movable toward the axis when the supporting means is open (page 2, lines 10 – 20, 125 – 130; page 3, lines 18 – 20, 30 – 40, 73 – 76); wherein the concave half has an opening part through which the convex half is fitted in, said supporting means partly protruding inwardly of the opening part when said supporting means is closed (figure 1).

With respect to claims 7 – 8, the reference further teaches that the concave half has an opening part through which the convex half is fitted in (figure 1), a slit-type inlet connected to the cavity is formed at a side of the concave half (item 6b – figure 1; page 1, lines 97 – 98), and a guiding member to cover a surrounding of the opening part is provided around the inlet and the opening part (item 6c – figure 1; page 1, lines 93 – 95); wherein when cross sections of the concave half and the convex half are circular in a direction orthogonal to the axes of the concave half and the convex half, the concave half and the convex half are conical-shaped, truncated-cone shaped or cylinder-shaped (figure 1).

Claims 1 – 9 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Haas (U.S. 6,227,103). Haas teaches a rolled cone manufacturing apparatus, comprising a concave half (item 23 – figure 5) and a convex half (item 14 – figure 5) which form a cavity inside when combined with each other (figure 5), a cross section of

Art Unit: 1722

the cavity having a circular shape in a direction orthogonal to axes of the concave half and the convex half (figure 5); and supporting means which rotatably supports the convex half (items 11 – 16 – figure 5; column 8, lines 56 – 67), on condition that the axis of the concave half is aligned with the axis of the convex half (figure 5), said supporting means being openable and closable, and pushing, on at least three points, an outer periphery of a part of the convex half protruding from the concave half onto the axis when said supporting means is closed (column 8, lines 56 – 67; column 9, lines 1 – 5), wherein the supporting means includes (i) opening and closing means for, when opened, releasing support of the axis of the convex half (item 15 and 16 – figure 5; column 8, lines 64 - 67), while, when closed, supporting the axis (figure 5; column 8, lines 64 – 67; column 9, lines 1 – 5) and (ii) locking means for keeping the opening and closing means closed (column 8, lines 64 – 67; column 9, lines 1 – 5).

With respect to claims 3 – 5, Haas further teaches that positions of supporting points of the supporting means are determined in such a manner as to form either (I) a polygon encompassing the axis of the convex half by connecting points where the supporting means contacts an outer periphery of a part of the convex half protruding from the concave half or (II) when the supporting means functions as a sliding bearing, either a circle around the axis or closed curved figure by connecting arcs centering on the axis (items 11 and 12 – figure 5; column 8, lines 57 – 58); wherein rolling objects are provided on respective supporting points of the supporting means (items 11 and 12 – figure 5; column 8, lines 57 – 58); wherein the convex half is rotatable when the

Art Unit: 1722

supporting means is closed, while the convex half is movable toward the axis when the supporting means is open (column 8, lines 63 – 67; column 9, lines 1 – 5).

With respect to claims 6 – 8, the reference further teaches that the concave half has an opening part through which the convex half is fitted in (item 23 – figure 7), said supporting means partly protruding inwardly of the opening part when said supporting means is closed (figure 5); wherein the concave half has an opening part through which the convex half is fitted in (item 23 – figure 7), a slit-type inlet connected to the cavity is formed at a side of the concave half, and a guiding member to cover a surrounding of the opening part is provided around the inlet and the opening part (column 9, lines 22 – 25); wherein when cross sections of the concave half and the convex half are circular in a direction orthogonal to the axes of the concave half and the convex half, the concave half and the convex half are conical-shaped, truncated-cone shaped or cylinder-shaped (figures 5 and 7).

With respect to claims 9 and 11, Haas further teaches that the supporting means is a loop-shaped member which is openable and closable (item 16 – figure 5; column 8, lines 55 – 67) and wherein the supporting means includes, provided that a part where the loop of the supporting means is cut off is referred to as a split part, a positioning and fixing member for positioning and fixing the split part in place (item 15 – figure 5), when the supporting means is closed (figure 5), said positioning and fixing member serving as a guiding member when the material sheet is brought into the concave half (column 8, lines 64 – 67).

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Haas in view of Ziegler (U.S. 4,589,838). Haas teaches the characteristics previously described but do not teach the supporting means is a link mechanism including a toggle mechanism; however, it is known to one of ordinary skill in the art to utilize toggle mechanisms for mold opening and closing.

For example, in a method to providing opening and closing means for a rotary blow molding apparatus, Ziegler teaches the use of toggle links (column 3, lines 19 – 25) to open and close adjustable clamp assemblies. A rotary actuator (item 90 – figure 5) is used to actuate the toggle links and thereby close and open the clamp assemblies. The use of one rotary actuator that can rotate to both open and close the clamp assemblies prevents the need for having to reverse or retract the actuator during indexing of the table (column 2, lines 1- 10). In addition, the toggle links are mounted on crankshafts, which in turn rotate, and cause the links to open and/or close (column 3, lines 19 – 25). This reads on the Applicant's claim that the supporting means is a link mechanism including a toggle mechanism, said link mechanism serving as opening and closing means, locking means, and a guiding member for guiding a material sheet into the concave half.



Art Unit: 1722

Similarly, in the apparatus of Haas, like that of Ziegler, there is a single actuator used to retract and project the shaft into the cavity, the shaft being supported by a frame and bearings rotating on the shaft itself. Therefore, it would have been obvious to one of ordinary skill in the art to modify the apparatus of Haas with the toggle link mechanism of Ziegler to provide a supporting means for the mandrel or convex half, such that the supporting means is mounted on the shaft, for the purpose of not only supporting the mandrel itself but also providing a means to open to close the mandrel with respect to the concave half.

#### ***References of Interest***

17. Der Beek (U.S. 5,336,511) and Tatosian (U.S. 1,440,851) are cited of interest to show the state of the art.

#### ***Conclusion***


18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Veronica D. Ewald whose telephone number is 571-272-8519. The examiner can normally be reached on M-F, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1722

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MVE

  
**JOSEPH S. DEL SOLE**  
**PRIMARY EXAMINER**  
6/10/06